UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WISCONSIN

KIMBERLY-CLARK CORP., et al.,

Plaintiff,

v. Case No. 05-C-985

TYCO HEALTHCARE RETAIL GROUP,

Defendant.

DECISION ON CLAIM CONSTRUCTION

A *Markman* hearing was held on October 10, 2006 to address disputed claim terms in two patents owned by or assigned to Kimberly-Clark (K-C). After reviewing the briefs and hearing the oral argument of the parties, my construction of the disputed claims is set forth herein.

I. Law of Claim Construction

It is a "bedrock principle" of patent law that "the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.,* 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). Thus, the interpretation of the patent's claims constitutes the centerpiece of any court's *Markman* efforts. The terms of a patent claim are to be given their ordinary and customary meaning to a person skilled in the art at the time of the patent application. *Id.* A "person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* at 1313. Thus, in determining the ordinary and customary meaning

of claim terms, the court may look to the "words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence." *Id.* at 1312 (quoting *Brown v. 3M,* 265 F.3d 1349, 1352 (Fed. Cir. 2001)). This is another way of saying that although the claim terms have primacy, they are not to be read in a vacuum. By the same token, claim terms are not to be read as if a dictionary definition is dispositive, because that would focus "the inquiry on the abstract meaning of words rather than on the meaning of claim terms within the context of the patent." *Id.* at 1321. In sum, the claim terms at issue in this case are to be read in the context of the entire patent and the other intrinsic evidence, such as the prosecution history, and, where applicable, any extrinsic evidence that might be of interpretive assistance. As seen below, claim construction is largely an outcome-driven exercise; at varying places either side may find itself seeking to enforce strict adherence to the claim language as to one disputed term, only to argue in the next breath for a more expansive, contextual, reading of another term. This reflects not just expediency, however, but the fact that the claim terms (especially disputed ones, perhaps) may lend themselves to nuances discernible only by reference to other evidence in the record.

II. Chappell patent, **U.S. Patent No. 5,795,344.**

The Chappell patent describes a product, such as a sanitary napkin, having a channel and differing levels of absorption. (Flaherty Decl., Ex. 1.) According to the abstract:

> An absorbent article such as a sanitary napkin has a cover, a baffle, and an absorbent between the cover and the baffle and includes an embossed channel in the absorbent. The channel is positioned inward from the absorbent edge. The channel impedes the flow of fluid toward the edges of the absorbent and increases absorbent utilization in the absorbent article.

1. "Channel" and "Fluid Impeding Channel"

Claim 1 of the Chappell patent teaches

> An absorbent article comprising:
> a. an absorbent; and
> b. a channel positioned inward from and along at least a portion of an edge of such absorbent, said channel substantially defining in said absorbent an inner portion and an outer portion, wherein the density of said absorbent in said inner portion is greater than the density of said absorbent in said outer portion.

(6:32-40.)

K-C believes that "channel" means "groove" and "fluid impeding" means "fluid slowing;" Tyco argues that "channel" means *one* channel. K-C also argues that "defining" means "distinguishing," whereas Tyco claims the term means "completely encircling."

A. The patent is not limited to one channel

The primary bone of contention seems to be the number of channels described in the patent or, alternately, whether "the" channel must completely encircle the napkin. K-C asserts that the invention is not limited to napkins having a single channel, whereas Tyco believes it is. Tyco's basis for this assertion is the language of the claims themselves: the channel is discussed in the claims exclusively in the singular form as "a" or "the" or "said" channel. It also argues that only a single channel can completely encircle the napkin, and complete encirclement is required for the napkin to fully impede fluid flow.

K-C counters that in a patent the terms "a" or "the" are not dispositive of number and instead are simply inclusive terms. K-C is correct that under Federal Circuit precedent the use of singular articles does not imply anything about the number of the term that follows: "'a' or 'an' in patent parlance carries the meaning of 'one or more' in open-ended claims containing the transitional phrase 'comprising.'" *Free Motion Fitness, Inc. v. Cybex Int'l Inc.,* 423 F.3d 1342, 1350 (Fed. Cir. 2005) (quoting *KCJ Corp. v. Kinetic Concepts, Inc.,* 223 F.3d 1351, 1356 (Fed. Cir. 2000)). Thus, the

claims' use of the term "an absorbent article comprising . . . a channel" is not dispositive of the number of channels the claim describes.

Yet Tyco is correct that "a channel" can mean *only one* channel if other aspects of the patent make that limitation clear. *Id.* Tyco argues that the figures, the specification and the claims themselves speak only of a single channel, which means the inventor "evince[d] a clear intent by the patentee to limit the article to the singular." *Id.* at 1350. The most glaring problem for Tyco arises in figure 3, which is described as "an alternative embodiment of the present invention" and shows what appear to be two distinct channels – marked as 22 and 22' – with one on top and one on the bottom of the napkin. The specification states as follows: "Referring to FIG. 3 the fluid impeding channel 22' is embossed into all three layers of the sanitary napkin 10' so that the channel 22 resides in the body facing surface 13, the garment facing surface 15, and the absorbent 14 of the sanitary napkin 10'." (3:10-14.)[1] Substantial efforts in the briefs and oral argument were made by both sides in an attempt to explain figure 3. Tyco attempts to get around the fact that figure 3 appears to describe two channels by noting that the above-quoted language states that 22' is embossed into "all three layers" of the napkin – 13 (body facing), 15 (garment facing) and 14 (the absorbent middle). If that is true, then it is physically impossible for there to be *two* distinct channels. That is, if 22' is embossed into *all three layers* of the napkin, there is no other part of the napkin into which another channel (22) could be embossed. Under this reading, it would seem that 22' and 22 are not two distinct channels but two parts of the same channel structure: 22' is the "up" facing part in the diagram and 22 faces "down." Both parts constitute the channel that is embossed in all three parts of the napkin. This seems to be how claim 15 treats the channel(s) as well: it claims "the absorbent

[1]Herein I will simply refer to the column and line numbers of the patent at issue.

article of claim 12 wherein said fluid-impeding channel is embossed into said absorbent, said body facing surface and said garment facing surface." (7:38-40.) This "double-channel" aspect is echoed in the specification, which suggests "[t]he channel 22 can be formed by compressing a portion of the body facing surface 13, a portion of the garment facing surface 15 (not shown) or a portion of both the body facing surface 13 and the garment facing surface 15 as seen in FIG. 3." (4:66-67; 5:1-2.)

Yet even if Tyco's interpretation of figure 3 were correct, all that means is that figure 3 describes a sort of single-channel structure having channels facing both the body and the garment. It does not follow from this description of figure 3 that the inventor was explicitly limiting all of the claims to only single-channel napkins. "Although the single disclosed [invention] in the specification includes this limitation, we do not confine the claim to the disclosed embodiments." *Massachusetts Institute of Technology and Electronics For Imaging, Inc. v. Abacus Software,* 2006 WL 2613439, *6 (Fed. Cir. 2006). That is, even if the figures and specification describe only single-channel napkins, Tyco still needs to point to some affirmative evidence that the invention is specifically limited to single-channels. Under *Phillips,* the specification can limit the apparent breadth of a claim in two instances: (1) where the specification reveals a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess; and (2) where the specification reveals an intentional disclaimer, or disavowal, of claim scope by the inventor. 415 F.3d at 1316. Neither of these instances occurred here. Indeed, in *Free Motion Fitness* the specification had described a "single cable" (not just "a cable") but the court found that was not enough to evince a "clear intent by the patentee to limit the article to the singular." *Id.* In contrast, here the specification actually describes the channels shown in figure 3 in the plural: "[s]ince the channels 22 and 22' are similar only one will be described except where otherwise specifically stated." (3: 15-16.)

Thus, whether or not figure 3 actually describes a multi-channel napkin or a napkin having a single, two-part channel, figure 3 is only one embodiment, and the specification itself describes that embodiment as having a multi-channel structure. Thus, the description of one embodiment of the invention does nothing to indicate the inventor's intent to limit the claims to the singular. And under Federal Circuit precedent, the fact that an aspect of the invention is described only in the singular does not, without more, limit the claims in the way Tyco suggests. Accordingly, I find the invention is not limited to single-channel napkins.

B. The channel need not have particular fluid-impeding or pooling properties

Tyco also proposes that the term "channel" is not just an ordinary channel but one that "impedes the flow of fluid and does not cause fluid to pool therein." For this proposition it relies on certain statements in the prosecution history and the specification which discuss the invention's enhancement of flow and conduction of liquid. For instance, the specification teaches that the channel should not be "so wide so as to allow the fluid to gather and pool in the channel." (5:49-50.) This statement, however, merely involves a preferential aspect of the channel size. Tyco also cites various statements in the prosecution history relating to the invention's conduction of fluids. Yet none of the statements can be read to impose a limitation that fluid does not pool ever in the channels. No one disputes that one of the goals of the patent is to teach a product having channels that conduct fluid, but Tyco presents no basis to read a purpose or functioning of the patent into the invention's physical description. Indeed, claims within the patent itself (e.g., claim 11) refer to a "fluid impeding" channel, which means that Tyco's preferred definition of embossed channel would be redundant.

C. A channel is not a groove

Citing a dictionary definition, K-C argues in its briefs that a channel is a groove. At argument, however, it indicated it was comfortable with the claim language as written. Rather than substitute a synonym, in my view the preferable approach is to retain the claim's own language where possible, and accordingly I will not redefine "channel" as "groove."

2. Defining an inner and outer portion

The next disputed term requires me to define "define," a term which arises throughout the patent. As Tyco noted at argument, the term is strongly linked to the nature of the channel itself, i.e., whether it must be a unitary channel or whether the invention comprises a multi-channel embodiment. As already noted, claim 1 teaches

> An absorbent article comprising:
> a. an absorbent; and
> b. a channel positioned inward from and along at least a portion of an edge of such absorbent, said channel *substantially defining* in said absorbent an inner portion and an outer portion, wherein the density of said absorbent in said inner portion is greater than the density of said absorbent in said outer portion.

(6:32-40.)

K-C argues that "defines" means "distinguishes," such that we would say the channel distinguishes one portion of the absorbent from the other. Tyco prefers a narrower construction, arguing that when the channel "defines" an inner and outer portion it means it separates the two portions by completely encircling the napkin, as shown in the figure on the first page of the patent, as well as in Figure 1. (Figures 2 and 3 are cross-sections presumably reflecting the same.) Tyco argues that this is the only interpretation that makes sense if the invention is designed (as the specification states) to wick fluid along the channel to "desorb" into unsaturated portions of the inner absorbent. (5:36-40.) That is, in Tyco's view if the channel does not form a complete circle, the

intended distribution of fluid will not occur.

There is no support, however, for Tyco's attempt to limit the patent's claims in this fashion. In fact, its effort seems a classic attempt to import a limitation from the specification into the claims themselves, a maneuver the Federal Circuit universally rejects unless the specification evinces a clear intent to limit a claim or to specially define the meaning of the term. *Phillips,* 415 F.3d at 1316. This is especially true when the proposed limitation comes from a single embodiment of the invention; here, the specification merely states, "*[d]esirably*, the channel 22 is positioned inward . . . and completely encircles the inner portion of the absorbent 14." (4:55-58.) The specification makes clear that this is just one (albeit desirable) way in which the invention may be implemented, and nowhere else does the specification or claims indicate that complete encirclement is a required limitation. In fact, review of the claims themselves makes this clear. Claim 1, for instance, describes a "channel positioned inward from and along *at least a portion of an edge* of said absorbent," which suggests that some portion of the edge could not be accompanied by any channel. Had the claim said "along the entire edge" or even just "along the edge," it might be inferred that the channel must completely encircle the napkin. Because it does not, the claim itself suggests complete encirclement is not an intended limitation.

In addition, the claim states that the channel "*substantially* define[s]" an inner and outer portion. In other words, it serves as the distinguishing line of demarcation between the two portions of the napkin, and this can be accomplished whether the channel completely encircles the napkin or whether it merely "substantially" or mostly encircles it. As the Federal Circuit has noted, "the term 'substantially' is a descriptive term commonly used in patent claims to "avoid a strict numerical boundary to the specified parameter." *Ecolab,* 264 F.3d at 1367 (quoting *Pall Corp. v. Micron*

Seps., 66 F.3d 1211, 1217 (Fed. Cir. 1995)). "In this case," the *Ecolab* court concluded, "'substantially' avoids the strict 100% nonuniformity boundary." To now conclude that the channel must completely encircle the napkin would be to allow one embodiment mentioned in the specification to trump the plain language of the claim itself. Tyco posits that the term "substantially" actually applies not to the horizontal definition of the inner and outer portions but to the vertical nature of the channel. In other words, it believes K-C used the term "substantially" to differentiate its invention from prior art whose grooves were not as deep and/or wide as its own invention; in that sense, "substantially" modifies the depth of the channels and not their level of horizontal encirclement. Yet there is little basis to accept this level of nuance in favor of the plain claim terms. The term "substantially defines" arises in the context of defining an inner and outer portion of the napkin, and these are horizontal concepts largely unrelated to the depth of the channel. Accordingly, in my view "substantially defines" means that the channel(s) serve to distinguish between the inner and outer portions, and in order to do so the channel(s) need not connect or constitute a single channel unit.

Tyco protests that this construction would create definitional problems because of the difficulty in determining when a channel would substantially define an inner and outer portion. Although a completely encircling channel would clearly define the two portions, it asserts, the same is not true with respect to a "J" or omega-shaped channel. Tyco believes such designs could conceivably define two portions of a napkin, but when would one portion begin and the other end? It is true that my construction could lend itself to less clarity in application than the one Tyco prefers. But it is equally true that such an issue is more appropriately handled at the infringement stage. If there are gaps in a multi-channel napkin, a jury may be asked to determine whether the channels

substantially define the two portions or not. The fact that the result might differ case-to-case does not mean that the construction of the claim terms must bend to accommodate only the most easily-applied definition.

3. Density

A. Density means density

The Chappell patent claims an invention in which "the density of said absorbent in said inner portion is greater than the density of said absorbent in said outer portion." (6:38-40.) Tyco seeks to append to the standard definition of density the qualification that it is density "as measured by industry standard measuring techniques and taking measurement errors into account." Tyco argues that measuring density on something like a sanitary napkin is difficult and suggests that it has no way of knowing whether its napkins would infringe absent a more concrete method of measurement. Measurements obtained in the course of this litigation, it asserts, suggest that density in one portion might vary significantly. As both parties agree, density is not a term of any particular complexity and was not a *sui generis* term essentially invented in the patent. The fact that the patent does not describe how density is to be measured does not mean that the definition of density itself is somehow unclear or in need of further elaboration. This is made clear by the case Tyco relies on, *Duplan Corp. v. Deering Milliken, Inc.,* 444 F. Supp. 648 (D.S.C. 1977). There, the court found that "[t]he '397 patent provides no definition of what mechanical spatial shrinkage is, how to determine it, how to measure it, or how to set up a machine to obtain it. At trial, no witness was able to determine whether a given processing specification would infringe the '397 patent without resorting to a series of complex tests developed by defendants' expert, Mr. Platt, which purported to delineate shrinkage resulting from relaxing the yarn by overfeeding from shrinkage resulting from heat." *Id.* at 737.

Because the term was so unclear, the court found, it would essentially require alleged infringers to play Russian roulette. *Id.* at 738. Here, in contrast, there is no debate about the meaning of the word "density" or how density should be measured. If errors or variations do arise in standard industry testing, as Tyco asserts, then that seems a matter of fact best left for the infringement stage rather than a concept capable of being imported into the very claim terms themselves. *See also Superior Graphite Co. v. Timcal SA,* 2006 WL 1234926, *9 (N.D. Ill. 2006) (construing term "bulk density" and rejecting defendant's argument that term was indefinite because the patent failed to specify the method of density measurement.)

B. Fluids need not preferentially 'desorb' into the inner portion

As set forth earlier, claim 1 describes an absorbent article wherein "the density of said absorbent in said inner portion is greater than the density of said absorbent in said outer portion." (6:38-40.) Once again, Tyco sought to graft a functional qualifier onto an otherwise clear phrase, although at oral argument it suggested part of its proposed definition could be eliminated. Specifically, it stated that its proposed claim construction could be amended to read as follows: "the measured density of said absorbent within the defined inner portion is greater than the density of said absorbent in said outer portion around the circumference of the channel."

The purpose for this construction is as follows. Tyco (as noted earlier) wants to be able to reliably pick various points on the napkin to measure density, and it believes the best way to do so would be to select a point on the inner portion and a corresponding point on the outer portion (across the channel, as it were) – in that way, density measurements are not subject to the willy nilly selection of various points or average densities, but rather are lined up such that an infringing device is only one whose density at a given point in the outer portion of the napkin is lower than the density

for a corresponding point on the inner portion.

Although the patent itself does not really justify this reading, Tyco believes that merely using an average or bulk density measurement would render the Chappell patent invalid in light of prior art (a point which K-C obviously disputes). Even if true, nowhere in the patent's language can one find the requirement that measurements must be taken at specified corresponding points between the inner and outer portions of the napkin. The language merely says the density of the inner portion must be greater than the density of the outer portion. If that causes problems for measurement, as Tyco argues, that seems a problem for another day rather than one resolvable at the claim construction stage. Because there is no textual basis for Tyco's claim construction, I will decline to adopt it.

4. Inner Portion

Finally, K-C seeks to define "inner portion" as "a portion inward and toward the center of the product, discrete from any channel or channel portion." In other words, it wants to clarify that the channel(s) do not comprise any part of the inner portion. The purpose for this reading is that Tyco may seek to assert an invalidity argument based on the inner portion of the Megison patent found in the prior art.

Tyco appears to concede that the channel(s) are distinct from the portions themselves, noting that such a reading would actually strengthen its claim that the channel must be a single, completely encircling channel. (It also notes that this question might best be left for the infringement stage.) In any event, there is ample support for K-C's interpretation. The channel is what defines the boundary between the inner and outer portion; as such, the inner portion does not also include the channel within its boundary. The plain text of the patent indicates that the channels are distinct from the

inner portion, and I will accordingly adopt K-C's preferred construction.

III. Romans-Hess Patent, U.S. Patent No. 4,655,759

The Romans-Hess patent describes a similar invention. Whereas the Chappell invention seems directed more at disbursing and impeding fluid through its channel system, the Romans-Hess invention is directed more at trapping, or pooling, fluid by virtue of flaps that provide a sort of container between the product and the user's body. (Flaherty Decl., Ex. 2.) Claim 1 of the Romans-Hess patent teaches:

> A sanitary napkin comprising a flexible, fluid impermeable backing sheet, a layer of absorbent material on said backing sheet and a fluid permeable cover having embossed in the absorbent on the user side face surface thereof a pair of embos[s]ed channels, said embossed channels located on each side of the longitudinal axis of said sanitary napkin with each of the [ends] of said embossed channels spaced apart from the edge of said sanitary napkin at least 1/8 inch, said channels in use being spaced apart from the napkin wearer's body and allowing said napkin edges to fold upward at said embossed channels to form an occlusive volume between said napkin and the wearer's body.

(6:4-16.)

1. Embossed Channels

K-C argues that "embossed channels" means "fold lines," but Tyco suggests instead that they are "passages or grooves made by compressing absorbent material, which do not act as a barrier to flow of fluid and which provide for the pooling of fluid." Thus, K-C wants to expand "embossed channels" by equating them to fold lines, whereas Tyco rejects this interpretation and seeks to limit the term still further by virtue of a functional qualifier.

I will begin with Tyco's preferred reading. As to the proposed functional limitation, Tyco argues that in the prosecution history and specification, K-C made it clear that the embossed channels did not act as fluid barriers and that they provided instead for the pooling of fluid. That is,

it asserts that K-C acted as its own lexicographer and narrowed the standard definition of channels by disclaiming any channels that acted as a barrier. For instance, the specification clearly states that the channels are not barrier lines: "It is relevant to note that these embossed channels or fold lines 3 are not barrier lines, that is, lines which are intended to stop the flow of body fluids beyond their boundary." Instead, the description continues, "the embossed channels 3 of the present invention are designed to reduce leakage by pooling body fluids during use." (4:37-43.) Although these statements make clear that the purpose of the channels is not to create a fluid barrier, to accept Tyco's argument would be to import a functional limitation from the specification into the physical description contained in the claims, a practice I have rejected above based on Federal Circuit precedent. "[T]he fact that the claimed composition was designed to solve certain problems of the prior art and the fact that the patentee noted the functional import . . . does not mean that we must attribute a function to the nonfunctional phrase." *Ecolab,* 264 F.3d at 1367. Moreover, even giving Tyco the benefit of the doubt, its argument is based on a faulty premise. That is, the fact that K-C's invention was not *intended* to be a barrier – as the description states – does not mean that any embodiment of the invention *cannot* have channels that act as a barrier. Thus, even if K-C had specifically disclaimed a particular purpose of the channels, it does not follow that such a purpose could not have been achieved in any embodiment.

Similarly, Tyco's attempt to describe the pooling function of the channels must also be rejected. Specifically, it argues that K-C deliberately defined channels as channels that provide for the pooling of fluid. But again, the specification merely states that the channels are "designed to" pool fluids and thereby reduce leakage. (4:42-43.) This description of the invention's purpose and novelty cannot somehow serve as a narrowing limitation on the claims themselves. In fact, it is

presumed that the claims themselves are designed to achieve the purposes set forth in the description.

Finally, Tyco asks that "channels" be read as "passages or grooves." It asserts this interpretation based on a standard dictionary definition as well as the inventors' repeated use of the term "grooves" during the patent's prosecution.[2] Although the inventors use the term "groove" several times in the prosecution history, nowhere in the quotations Tyco cites did the inventors suggest that the channels in the invention were to be viewed as though they were *merely* grooves. Instead, in each instance, the inventors are discussing the groove-like properties possessed by the channels, i.e., the fact that they act as hinges allowing the flaps to fold upwards. In that respect, it is true that the channels may be deemed grooves. But in other respects, such as fluid-retarding or disbursing, they may also be viewed as channels. The fact that the channels may also be deemed grooves does not mean that the inventors sought to limit "channels" to "grooves," and the few instances Tyco cites in the prosecution history certainly do not suggest otherwise. Accordingly, I see no reason to alter the meaning of "channels" in the manner Tyco suggests.

K-C asserts instead that embossed channels are "fold lines." For support, it notes that on numerous occasions the specification refers to the embossed channels or fold lines interchangeably. For instance, the description notes that the "fold lines 3 *which are embossed channels* adjacent to the longitudinal edges 1 are formed by compressing the layers of the pad a sufficient amount to remain intact throughout the intended use of the pad." (4:34-37.) In summarizing the invention, the specification states that "the present invention concerns an absorbent sanitary napkin with fold lines or embossed channels." (1:17-18.) In addition, K-C notes, the title of the invention is "Reduced

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[2]The citations from the prosecution history are found at Tyco's opening brief, p. 14, and its response brief at p. 2.

Leakage Menstrual Pad With Built-In Fold Lines." Finally, K-C argues that the entire purpose of the invention is to allow for the folding up of the flaps, or edges, to pool fluid. Thus, it asserts, it has effectively redefined "embossed channels" as "fold lines."

Although the specification might refer to the embossed channels as fold lines – just as it refers alternately to both channels and grooves – that merely means that the embossed channels *are also* fold lines. The channels are certainly a *type* of fold line, but fold lines could presumably consist of grooves, creases or any other line that indicates a fold, a point K-C conceded at argument. In other words, fold lines are a broader category than embossed channels, and nothing about the term "fold lines" suggests that they must be embossed channels: the two terms are simply not synonymous, and nothing in the specification suggests that the embossed channels may *merely* be fold lines. Thus, because nothing in the specification or claims implies that *any* sort of fold line will do, I conclude that they must be embossed channels.

This is made clear by reference to the claims themselves. Specifically, claim 1 – standing on its own – already accounts for the fold-line properties and qualities K-C now cites. In particular, claim 1 states that the embossed channels are to allow "said napkin edges to fold upward at said embossed channels to form an occlusive volume." (6:13-15.) Read as a whole, the claim essentially sets forth an invention having (1) embossed channels that (2) *act* as fold lines. This explains why the specification might, at times, use the two terms interchangeably; but the fact remains that the claims describe not all fold lines but merely fold lines that are implemented through embossed channels. This is a limitation clearly set forth in the claims, and I therefore do not find K-C's attempt to expand the claim terms persuasive.

2. Said Napkin Edges

This disputed term arises in the context of the flaps, or edges, that fold upwards to form the "occlusive volume" where fluids are pooled. Tyco claims the term "edge" refers only to the outermost edge of the napkin, whereas K-C believes it includes a much broader area. Both claim 1 and claim 4 speak of the napkin edges folding upward at the embossed channels; in claim 4 the "upward folded edges are absorbent," and the "absorbent edges . . . fold upwards to form said occlusive volume." (6:36-41.) Tyco argues that the term "edge" must be construed consistently throughout the claims, and that in other instances, the term "edge" means the outermost edge (which K-C concedes). *Digital Biometrics, Inc. v. Identix, Inc.,* 149 F.3d 1335, 1345 (Fed. Cir. 1998) ("whatever interpretation we assign should encompass both uses because the same word appearing in the same claim should be interpreted consistently.") Tyco also notes that if the inventors had wanted "edge" to mean flaps or sides of the pad, they could easily have used those terms – as they did in the specification – in place of "edge."

K-C, however, wants "edge" to mean not merely the outermost edge of the absorbent but to include the "portion between the embossed channels and the outermost edges of the absorbent, alternatively referred to in the patent as the 'sides of the pad.'" Throughout the specification and claims, it asserts, the inventors repeatedly refer to the these portions of the napkin as the only ones that fold upwards. Thus, when the claims speak of the napkin edges folding upwards, they are referring not just to the outermost edges – which presumably are unable to "fold" at all – but to the area K-C describes as the "sides of the pad" which "flip up" when squeezed by the upper thighs of the wearer. (5:24-26.)

Although K-C conceded that the claims were not a model of clarity, and while Tyco is generally correct that terms should be construed consistently throughout a patent, I conclude that

K-C's reading of "edge" is truest to the practical understanding of the invention claimed. *Epcon Gas Systems, Inc. v. Bauer Compressors, Inc.,* 279 F.3d 1022, 1031 (Fed. Cir. 2002) (noting that context can sometimes call for multiple definitions of the same term). First, within the claims themselves the "edges" in question are referred to as "upward folded" (6:36), and they are allowed to "turn upward" (6:34) or "fold upward" (6:14; 41) to form the occlusive volume described therein. At argument Tyco attempted to demonstrate how the outermost edge of the absorbent would be able to "fold" upwards because the edge, in Tyco's sense of the word, is not merely an end line but a three-dimensional planar cut. Even I accepted that an edge could fold, however, it is doubtful that such an edge could somehow form any kind of occlusive volume. That is, the edge must form some kind of wall and be possessed of some dimension of verticality if it is to form an occlusive volume, and once that occurs the "outermost edge" is no longer a line or even a planar cut.

More importantly, however, the claims themselves give a substantial clue about the nature of the "edges" in question. Claim 1 teaches, for instance, that the channels allow "said napkin edges to fold upward *at said embossed channels*." (6:14-15.) This phrase specifically teaches that the "edge," in that context, begins at the embossed channels. The edge is that part of the napkin that folds upward beginning at the embossed channel; it is, in other words, the side or flap of the napkin that is "hinged" to the rest of the napkin via the fold-line channels.

Thus, I conclude that while clearer drafting was no doubt feasible, K-C's reading of "edges" is the only construction that makes sense of the invention claimed.

3. Allowing the Edges to Fold Upward

The next term in dispute involves the folding mechanism of the napkins. Three phrases are at issue. First, claim 1 speaks of the "channels in use being spaced apart from the napkin wearer's

body and *allowing said napkin edges to fold upward* at said embossed channels to form an occlusive volume between said napkin and the wearer's body." (6:14-17.) Second, claim 4 teaches the channels "having their ends spaced inward from the edge of said napkin at least 1/8 inch, and *adapted to allow the edges to turn upward*." (6:32-34.) Finally, claim 4 also teaches that the channels are "*adapted to be activated by the thighs of the wearer to allow the absorbent edges to fold upwards* to form said occlusive volume."

The particular bone of contention is the meaning of the verbs used: "allowing" and "adapted to allow." K-C's interpretation is largely synonymous with the claim terms: "allowing" means "permitting" and "adapted to allow" means "formed so as to permit." (At argument K-C indicated no objection to retaining the claim terms as-is.) Tyco, however, believes "allowing the edges to fold upward" means "*directing* the edges to fold upward." It also claims "adapted to allow" means "suited by design to direct the edges upward in use."

Tyco's effort to transform "allowing" into "directing" is based on the prosecution history and the general purpose of the invention itself. It asserts that the goal of the patent – and its novelty – was grounded in the napkin's ability to fold upwards to meet the body of the wearer, forming an occlusive volume. Thus, in prosecuting the patent, K-C repeatedly referred to the fact that the hinged areas (i.e., the "edges," as construed above) fold upwards when the wearer's thighs compress against the pad.[3] In Tyco's view, K-C cannot now run away from that important distinction by asserting that the channels merely "allow" or "permit" the flaps to fold upwards. In Tyco's view, any napkin – whether having channels or not – would "permit" folding upward under the right circumstances. In Tyco's view, therefore, "allow" must mean something more.

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[3]Citations from the prosecution history are found, for example, at Tyco's brief at page 21.

I first note that Tyco's concerns are already incorporated into the claims themselves. Claim 4, for instance, teaches that the channels "are adapted to be activated by the thighs of the wearer to allow the absorbent edges to fold upwards to form said occlusive volume." (6:39-41.) This recognizes that the channels' purpose is to facilitate the folding process in the event the wearer activates the design. Because the claim itself sets forth this process, it is not as though the claim differs materially from anything the inventors had set forth in the prosecution history. Along the same lines, there is nothing in the prosecution history that would justify redefining the word "allow" to mean "direct" – the former implies ability, whereas the latter implies action. It is of course true that the invention, at its most useful, would have the effect of creating the occlusive volume and that this volume would be created by virtue of the channels' hinging properties. That is reflected in the prosecution history as well as in the specification, which states: "Advantageously, these embossed channels *are activated* during use by the thighs, *allowing* the sides of the napkin to fold upwards." (2:63-65.) But the fact that these advantageous features may be allowed to occur does not mean that the channels themselves *direct* them to occur.[4] Instead, everything in the patent indicates that the channels facilitate the folding or *allow* the edges to fold.

Moreover, Tyco's preferred reading does not fit the physical reality of the invention. In short, just as it was unclear how an "edge" could create an occlusive volume, it is difficult to discern how a channel can "direct" the edge to fold upward. By way of analogy, a door's hinge allows it

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[4]This is true even if I considered Tyco's alternative definition of "allow." It asserted at argument that a car's muffler "allows" the car to drive quietly, and in that sense the muffler also "directed" or caused the car to drive quietly. This reading incorporates not just permissiveness but also functionality. Even so, this gloss is several steps removed from the active voice "direct" that Tyco now prefers. That is, no one would say that a muffler "directs" the car the operate quietly – its presence more properly *enables* the car to do so, which gets us back to the more permissive reading of "allow" we began with. The channels enable the sides of the napkin to fold upwards.

to open, but no one would claim that the hinge is the cause of the door opening, or that the door opens at the hinge's direction – there is another actor. Similarly, according to the patent it is the wearer of the napkin whose thighs *direct* the edges to fold upward, and the fact that the channels facilitate that process does not mean that they direct it. Accordingly, I reject Tyco's attempt to redefine the word "allow."

Similarly, I reject Tyco's interpretation of "adapted." It asserts that "adapted to allow" should mean "suited by design to direct," yet this alteration has even less basis in the intrinsic evidence. Tyco merely cites a dictionary for its definition of "adapted" and notes that the invention was specifically designed to function so that the edges of the napkin fold upward. That much is clear from the patent itself – and indeed could be inferred in almost any invention – but nowhere does Tyco articulate why "suited by design" should be substituted for the less cumbersome "adapted" language of the claim itself. Instead, the notion of design opens up a number of interpretive problems that can be avoided simply by retaining the language of the claim itself.

Although I have rejected Tyco's preferred claim construction, I am not persuaded that K-C's substitution of the word "permit" for "allow" serves any useful purpose. As noted, K-C acknowledged at argument that leaving "allow" untouched would accomplish the same goal. Moreover, K-C does not explain why the phrase "adapted to allow" should be interpreted as "formed so as to permit" – these reworkings of the claim terms seem merely to be synonymous surplusage or assume the obvious (e.g., that the channels were "formed"). As K-C argues with respect to Tyco's proposed construction, "[t]he original terms in the claims, 'adapted to allow' and 'adapted,' are far more easily understood." (K-C Br. at 19.) Accordingly, I will leave the claims as they are without appending synonyms or otherwise redefining them.

4. Occlusive Volume

The final disputed term involves the interpretation of the nature of one of the invention's primary teachings, namely, the channels' forming of an occlusive volume. The term arises in both claims 1 and 4. Claim 1 teaches that the channels allow the napkin edges to fold upward "to form an occlusive volume between said napkin and the wearer's body." (6:14-16.) Claim 4 teaches the same, with the addition that the folding mechanism is activated by the thighs of the wearer's body. (6:39-42.) Tyco believes the phrase should mean, "sealing to the user so as to form a space, like a container, that prevents passage of fluid therefrom." K-C argues it should simply mean, "form a space for the accumulation of fluids."

Tyco's reading is based on several sources. First, it begins by noting that the dictionary definition of occlusive includes such synonymous concepts as obstructed, barred, or stopped up to prevent the passage of something. Thus, the occlusive volume should be viewed as a space that "prevents the passage of fluid therefrom." Its use of the word "container" comes from the specification and prosecution history. For example, the specification describes the invention as follows: "This sanitary napkin forms an occlusive container to help reduce the incidence of side leakage." (1:15-16.) And in the prosecution history, the inventors referred to a "fluid receptacle." Thus, the claim term "volume" should be read as meaning a container. Finally, Tyco believes the container must "seal to the user" because the purpose of the invention is to "eliminate leakage," and if the napkin does not seal to the user's body, the invention's occlusive properties are not achieved.

Once again, however, Tyco's proposed alterations seek to interpolate qualities into the claims without a reasonable basis in the evidence. First, Tyco's reliance on the dictionary is unhelpful in view of the relative clarity of the claim terms and the specification themselves. Although the goal

of the invention is certainly to "prevent" (i.e., "occlude") the passage of fluids, this does not mean that the goal will universally be achieved. In fact, the specification reveals that the "primary object" of the invention is to "*minimize*[] the *possibility* of side staining or side leakage." (2:36-37.) Minimizing leakage is different than "preventing" leakage altogether, and Tyco's definition would fundamentally alter the meaning of the claim term as it is used in the patent. By the same token, there is no basis to read into the claim the limitation that the occlusive volume must "seal" to the user. Tyco's only support for the limitation is found in the general purpose of the invention, which is to occlude fluid; without a seal, Tyco asserts, occlusion will be impossible. But just as with its use of the word "prevent," Tyco's attempt to limit the claims to forming occlusive spaces that "seal" to the body takes the invention a step too far and would import a substantial functional narrowing into the claims without any basis in the evidence. In a perfect embodiment and use of the invention, a seal might conceivably be formed – but nowhere in the patent or other evidence is there any indication that the edges are to fold up so as to produce a seal. As with "prevent," the word "seal" implies there would never be any leakage, yet the specification itself acknowledges that the invention's goal is merely to minimize leakage. Indeed, as a general principle, one expects that when a paper-based device like the present invention interacts with something so malleable and unpredictable as the human body, there will never be a claim to perfect operation: channels will not always "direct" edges to fold upward, the edges will not always completely "prevent" leakage, and the fluid-occluding volume will not always "seal" to the body. The patent itself teaches none of these properties, and I will accordingly reject Tyco's attempt to append such limitations onto the claims. "Where the function is not recited in the claim itself by the patentee, we do not import such a limitation." *Ecolab,* 264 F.3d at 1367.

Finally, Tyco believes "volume" should mean "container." For this proposition it has far more support: throughout the specification the inventors refer to a "container" instead of a "volume." For instance, it notes that the "sanitary napkin forms an occlusive container to help reduce the incidence of side leakage." (1:15-16.) The specification also notes that the "prior art has not attempted to develop an occlusive container out of the sanitary napkin to eliminate leakage." (2:29-30.) In describing the most advantageous implementation of the invention, the specification states that the channels allow the "formation of an occlusive container by the sanitary napkin." (2:67-68.) K-C does not appear to object specifically to the word "container" (although it prefers "space"). Whether the area in question is described as a container or a space (or simply a volume), the important point is that there is nothing in the patent that indicates the container or space must seal to the body or to completely prevent passage of fluid.

III. Claim Construction

I adopt the agreed construction proposed by the parties in their Joint Claim Construction Statement. (Docket No. 83.) For the reasons stated above, I construe the disputed claim terms as follows:

Chappell Patent

1. "A channel" means "a channel," although the invention is not limited to a single channel. "An embossed fluid impeding channel" means "an embossed channel that slows fluid."

2. "Inner portion" means "a portion inward and toward the center of the product, discrete from any channel or channel portion."

3. "Substantially defining" means "substantially distinguishes," where relevant. (See Joint Claim Construction Statement at 9.)

4. "Density" means "mass per unit volume."

5. "Density of said absorbent in said inner portion is greater than the density of said absorbent in said outer portion" means "density (as defined above) of the absorbent in the inner portion (as defined above) is greater than the density of the absorbent in the portion outward and toward the edge of the product." Similar or related phrases in the patent are construed in the same fashion. (See Joint Claim Construction Statement at 10-11.)

Romans-Hess Patent

1. "Embossed channels" means "embossed channels."

2. "Said napkin edges" and other "edges" (as applicable) means "the portion between the embossed channels and the outermost edges of the absorbent, alternatively referred to in the patent as the 'sides of the pad.'"

3. "Allowing said napkin edges to fold upward" means "allowing said napkin edges to fold upward." "Adapted to allow the edges to turn upward" means "adapted to allow the edges to turn upward." "Adapted to be activated by the thighs of the wearer to allow the absorbent edges to fold upward" means "adapted to be activated by the thighs of the wearer to allow the absorbent edges to fold upward."

4. "Form an occlusive volume" means "form a space, or container, for the accumulation of fluids."

Entered this 11th day of October, 2006.

s/ William C. Griesbach
William C. Griesbach
United States District Judge